

CLAIMS

1. An isolated, purified or recombinant nucleic acid sequence encoding a gibberellin 2-oxidase enzyme comprising a nucleic acid sequence as shown in Figure 1 or a functional derivative thereof, or its complementary strand, or a sequence homologous thereto.
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2. A nucleic acid sequence as claimed in claim 1, which encodes an enzyme which has the activity of a gibberellin 2-oxidase enzyme of *Phaseolus coccineus*.
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3. A nucleic acid sequence as claimed in claim 1 which encodes a gibberellin 2-oxidase enzyme from *P. coccineus* or *Arabidopsis thaliana*.
4. A nucleic acid sequence as claimed in any one of claims 1 to 3, in which the coding sequence is operatively linked to a promoter.
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5. A nucleic acid sequence as claimed in claim 4, in which the promoter is a constitutive promoter.
- 20 6. A nucleic acid sequence as claimed in claim 4, in which the promoter is specific for expression in a particular plant cell.
7. An isolated, purified or recombinant nucleic acid sequence comprising a promoter which naturally drives expression of a gene encoding a gibberellin 2-oxidase enzyme comprising a nucleic acid sequence as shown in Figure 1 or a functional derivative thereof, or its complementary strand, or a sequence homologous thereto.
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8. A nucleic acid sequence as claimed in claim 7, in which the gibberellin 2-oxidase enzyme is the gibberellin 2-oxidase enzyme of *Phaseolus coccineus* (*PcGA2ox1*).

5 9. A nucleic acid sequence as claimed in any one of claims 1 to 8, in which the gibberellin 2-oxidase catalyses the 2 β -oxidation of a C₁₉-gibberellin molecule to introduce a hydroxyl group at C-2.

10 10. A nucleic acid sequence as claimed in claim 9, in which the gibberellin 2-oxidase further catalyses the oxidation of the hydroxyl group introduced at C-2 to yield the ketone derivative

11. A nucleic acid sequence encoding a ribozyme capable of specific cleavage of RNA encoded by a gibberellin 2-oxidase gene.

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12. An antisense nucleic acid sequence which includes a transcribable strand of DNA complementary to at least part of the strand of DNA that is naturally transcribed in a gene encoding a gibberellin 2-oxidase enzyme.

20 13. An isolated, purified or recombinant polypeptide comprising a gibberellin 2-oxidase enzyme having the amino acid sequence as shown in Figure 2.

14. A vector comprising a nucleic acid sequence as claimed in any one of claims 1 to 12.

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15. A host cell transfected or transformed with a nucleic acid sequence as claimed in any one of claims 1 to 12.

16. A plant cell including a nucleic acid sequence as claimed in any one of claims 1 to 12.
- 5 17. A plant or a part of a plant at least some of whose cells are as claimed in claim 16.
18. Propagating material from a plant as claimed in claim 17.
- 10 19. The use of a nucleic acid sequence as claimed in any one of claims 1 to 12 in the preparation of a plant.
- 15 20. The use as claimed in claim 19 in which the gibberellin 2-oxidase is constitutively overexpressed in the plant to reduce the concentration of bioactive gibberellins (GAs) in the plant.
21. The use as claimed in claim 19 in which expression of endogenous GA 2-oxidase genes in transgenic plants is reduced.